ADVC700

Advanced DV Converter

User Manual

THOMSON

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Warranty

Your ADVC700 options are covered by a limited warranty when you register your Grass Valley product. This warranty is for a period of one year (or two years in European Union countries) from the date of purchase from Grass Valley or an authorized Grass Valley agent. This warranty applies only to the original purchaser of the Grass Valley product and is not transferable, Grass Valley warrants that for this period the product will be in good working order. Should our product fail to be in good working order, Grass Valley will, at its option, repair or replace it at no additional charge, provided that the product has not been subjected to misuse, abuse or non-Grass Valley authorized alternations, modifications and/or repair. Proof of purchase is required to validate your warranty.
Grass Valley is not responsible for any lost profits, lost savings or other incidental or consequential damages arising out of the use of, or inability to use, this product. This includes damage to property and, to the extent permitted by law, damages for personal injury. This warranty is in lieu of all other warranties of merchantability and fitness for a particular purpose.

Cautions

Please observe the following cautions when using this product. If you have any questions regarding the method of usage, the descriptions herein, or any other concerns, please contact Grass Valley Technical Support.

DANGER

The following conditions indicate the potential for serious bodily injury or loss of life.

Health precautions

In rare cases, flashing lights or stimulation from the bright light of a computer display or TV monitor may trigger temporary epileptic seizures or loss of consciousness. It is believed that even individuals whom have never experienced such symptoms may be susceptible. If you or close relatives have experienced any of these symptoms, consult a doctor before using this product.

Do not use in environments requiring a high degree of reliability and safety

This product is not to be used in medical devices or life support systems. The characteristics of this product is not suited for use with such systems.

Protect against static electricity
An electrostatic discharge may damage components of this product. Do not directly touch any of the connectors or component surfaces.
Static electricity can be generated on clothing and on people. Before handling the product, discharge static electricity from your body by touching a grounded metal surface.

Do not disassemble
Do not remove the cover or modify the Product. Fire, electric shock or malfunction may result. For internal inspection or repair, please contact your system integrator or Grass Valley directly.

Do not operate at other than the specified voltage
Do not operate at other than the specified voltages of AC 100-240V. Operation at other than the rated voltage may result in fire or malfunction.

Do not operate with other than the specified power supply
Do not operate with other than the specified AC adapter, or with a car power supply. Such operation may result in fire or malfunction.

Handle the AC adapter cord carefully
Do not place heavy objects on top of the cord, or place it near hot objects. Doing so may damage the cord and result in fire, electrical shock, or malfunction. Altering the cord, or excessively bending or pulling the cord may result in fire or electrical shock. If the cord is damaged, please contact your local retail outlet or Grass Valley directly.

CAUTION
The following conditions indicate the potential for bodily harm, damage to hardware or loss of data.

Do not pull AC adapter cord when disconnecting from electrical outlet
When disconnecting the AC adapter cord, pull on the plug, not the cord itself. Pulling on the cord can damage the cord and may result in fire or electric shock.

Do not touch AC adapter with wet hands
Do not disconnect or plug in the AC adapter when your hands are wet. Contact with water may result in electric shock, fire or damage.

Do not setup in areas subject to heat
Do not setup in an area exposed to direct sunlight or near a heating apparatus. The heat can accumulate, causing burns, fire or damage. Also, the unit may become deformed or change color.

Only setup using the prescribed method
Do not setup in a manner other than prescribed. Do not use while wrapped in cloth or plastic. Heat can accumulate, causing burns, fire or damage.

If product will not be used for an extended period

If this product will not be used for an extended period of time, disconnect the AC adapter from the electrical outlet.

Do not cover the ADVC700 ventilation

Do not use the ADVC700 covered with a cloth or in an ill-ventilated room.
Covering the vent may cause heat inside of the product resulting in fire or product malfunction.

Precautions for use of AC adapter

The supplied AC adapter and power cord are for exclusive use of this product. Do not operate the product with other AC adapter or in other combinations.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE Notice

WARNING

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Declaration of Conformity

According to FCC Part 15

Responsible party Name: Canopus Corporation

Address: 711 Charcot Avenue, San Jose, CA 95131

Telephone: 408-954-4500

Declares that product Model: ADVC-700

complies with Part 15 of the FCC Rules.

Product Notes

1. Unauthorized copying of a portion or the entirety of this product is prohibited.
2. The description and specifications of this product are subject to future change without notice.
3. The description of this product has been prepared to be as complete as possible.
   If the reader is aware of any questionable points, errors or omissions, please contact Grass Valley.
4. The company assumes no liability for the results of practical application, regardless of item (3) above.
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About the Documentation

This document is the ADVC700 User Manual.
Information not listed in this document may be listed elsewhere.
In cases where there is a difference between a description in this document and an actual operation method, the actual operation method takes precedence.

ADVC700

Advanced DV Converter

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ADVC700

Advanced DV Converter

Chapter 1
Introduction

This chapter explains about the things to know prior to setting up the ADVC700. Before you start using ADVC700, read this chapter to ensure that you have a trouble-free setup.

- Introduction
- Features of ADVC700

1 Introduction

1-1. Package contents

Please verify that the following items are included in the ADVC700 package. If any of the components are missing, please contact Grass Valley Customer Support.

- 1 x ADVC700 unit
- 1 x AC adaptor & cable
- 1 x DV cable [6 pin - 4 pin]
- 2 x Rack-mount brackets
- 4 x Attachment screws
- 1 x ADVC700 User Manual (This document)

1-2. Customer Support

For questions regarding hardware setup and usage, please contact your local Grass Valley office, distributor or the store where you have purchased this product.

1-3. web-site

Including ADVC700, the latest company information is announced at our website *http://www.canopus.com/*. The latest drivers, utilities, product manuals, FAQs, etc. are also available at our website.

1-4. Online user registration

You can register your ADVC700 at the Canopus website.
http://www.canopus.com/support/supportcenter.php

1-5. Limitations

- **Limitations on the nonstandard signal**

  While the ADVC700 can convert the signals output by game consoles, there is a possibility that some software will be unable to synchronize some video and audio signals.

  * In order to capture the nonstandard signal, such as one from a game console without audio noise, enable the "108 DV-out frame sync." In this instance, frame-skip or frame-hold will occur.

- **Limitations on the ADVC700 connection**

  Before you connect(disconnect) your ADVC700 to(from) a PC, ensure that the PC has been powered off.

- **Limitations on connecting your ADVC700 to Windows 2000 PC through IEEE1394 interface (OHCI)**

  When your ADVC700 is operating in NTSC, the DV frame rate being output from the OHCI driver is markedly slower than the standard frame rate. Therefore, glitches in both the frame hold and time-code can occur regularly while the DV output signal is being converted to an analog signal. This phenomenon does not occur, however, when the signal is input through OHCI from the ADVC700.

2 Features of ADVC700

- **Pursuit of video quality**

  The highly acclaimed Canopus DV Codec functions as the DV Codec chip and performs the core work for analog/DV conversion. This allows for high quality video conversion.

- **High synchronism: "Locked Audio"**

  The ADVC700 uses a locked audio function to digitize the audio signal by synchronizing it precisely with the speed of the video signal. When the audio and video data are synchronized, the analog audio input will not get out of sync with the video. Lengthy content, such as a movie, can be converted easily.

  * The locked audio function only works in analog → DV conversion. It will not function in a DV-DV connection.

- **Perfect Sync technology(patent pending)**

  During DV → analog conversion, Perfect Sync technology (patent pending) facilitates conversion and results in precise synchronization with the REF input signal, also eliminating any skip holds.

- **Professional specifications adapt to a variety of studio uses**

  Designed for quick and easy introduction to a wide range of studio systems, the ADVC700 features AV/C → RS422 conversion-driven VCR control and a full complement of reference inputs and LTC I/O.

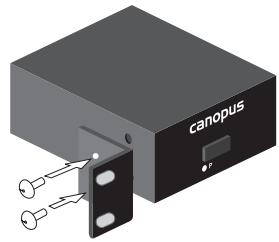
- **EIA-compliant 19-inch rack-mount**

  The ADVC700, a stand-alone unit with a generic format, the IEEE1394 interface, can handily be connected to any PC without the need for additional hardware.
  In addition, the ADVC700, as a 19-inch unit, the EIA standard, can be mounted to a director's rack together with a VCR.

TIP

When mounting the ADVC700 on a rack:

1. Use a Phillips-head screwdriver to remove the four rubber legs from the bottom of the unit; and
2. Attach the rack-mount bracket to the ADVC700 unit with the screws provided.



- **Simple user-friendly menu settings**

  The ADVC700 settings can be altered by using the select dial and the buttons on the front panel. The current setting will display on the LCD.
  The ADVC700 will also save its most recently used settings when the unit power is turned off, and those settings will automatically restore when the unit is turned back on. (All settings changed with the front panel switches will be recovered.)

- **Save/Restore user settings**

  You can save/restore up to three different settings, enabling the user to choose from the most appropriate settings from past usage.

- **Versatility with all PCs**

  The ADVC700 utilizes a DV format; therefore its usability is not limited by either Windows or Macintosh. The input/output functions of component video, composite video, S-video, audio XLR and audio RCA can all be employed by simple connection to the IEEE1394 interface, without any need to change the current environment.

- **Versatility in NTSC/PAL**

  As well as NTSC, which is the format used in Japan and US, PAL format, which is more common in European and other countries, can also be selected.

  * NTSC-PAL (SECAM) conversion cannot be done with the ADVC700.
  * Even once the ADVC700 has been mounted to a director's rack, video settings can still be easily changed by accessing the front panel settings.

ADVC700

Advanced DV Converter

Chapter 2
Basic Operations

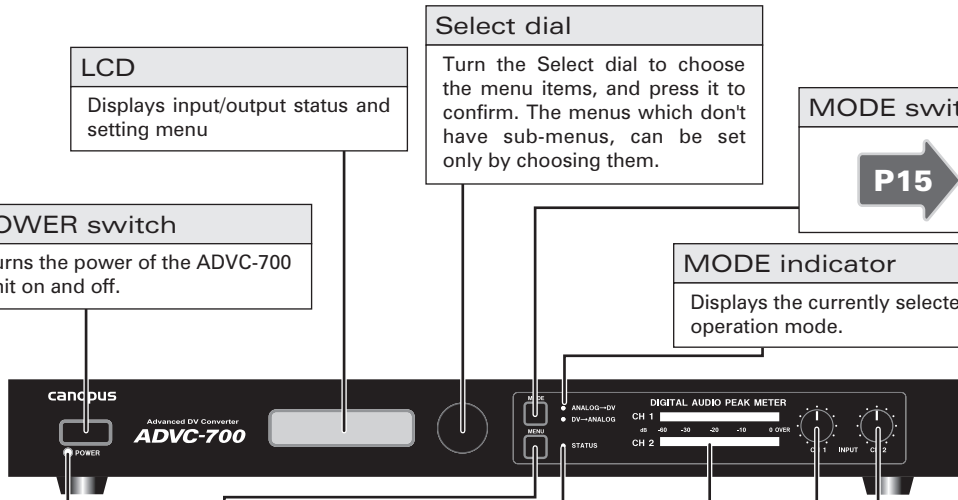
This chapter explains the basics of the ADVC700, such as part names, functions, etc.

- Part names and functions
- Connecting devices
- Setting menu
- Specifications

1 Part names and functions

1-1. ADVC700 front panel

The front panel of the ADVC700 unit has the following controllers and indicators.



LCD

Displays input/output status and setting menu

Select dial

Turn the Select dial to choose the menu items, and press it to confirm. The menus which don't have sub-menus, can be set only by choosing them.

MODE switch

P15

POWER switch

Turns the power of the ADVC-700 unit on and off.

MODE indicator

Displays the currently selected operation mode.

POWER LED

STATUS LED

P15

MENU switch

Switches between Main screen and Menu screen.
In sub-menu, press this switch to return to the main menu.

DIGITAL AUDIO PEAK METER

Displays the peak level of the audio that is currently being input or output.

AUDIO INOUT LEVEL dial (INPUT-CH1)

Adjusts the analog audio level input to CH1.
Turn clockwise to increase the input level.

AUDIO INOUT LEVEL dial (INPUT-CH2)

Adjusts the analog audio level input to CH2.
Turn clockwise to increase the input level.

*** The position of the average audio level is where the dial clicks when you turn it.**

• **MODE switch**

Used to switch on the operation mode of the ADVC700. Pressing the switch will activate the Encode operation and Decode operation alternatively.
When "ANALOG → DV" LED illuminates, ADVC700 converts input analog signal to DV signal (DV Encode). When "DV → ANALOG" LED illuminates, it converts input DV signal to analog signal (DV Decode).

•**STATUS LED**

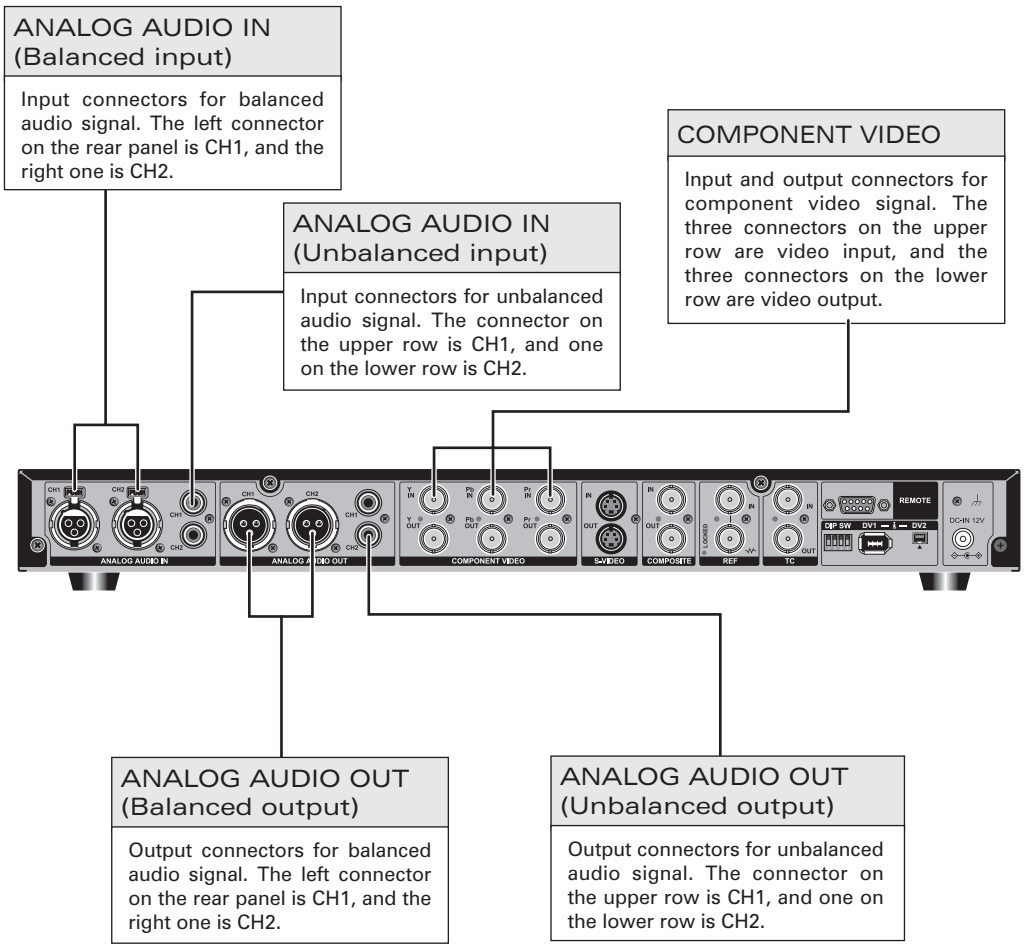
Displays the following status.

Off: ..... 9-pin remote control is disabled.
Lit green: ..... 9-pin remote control is enabled.
Lit red: ..... 9-pin remote control has been set to enabled, but remote control is prevented by a communication error. Check that the 9-pin remote cable is correctly connected, that the connected device's power is ON, and that the remote control setting has been enabled on the connected device.
Flashing red: .... A major ADVC700 operation error has occurred, or several signals required for operation can't be detected. Check the error status display screen. Input the required signals correctly, or change ADVC700' settings.

* For more information on error status, see "Error status screen" (p.22).

1-2. ADVC700 rear panel

The rear panel of the ADVC700 has the following connectors.


ANALOG AUDIO IN
(Balanced input)
Input connectors for balanced audio signal. The left connector on the rear panel is CH1, and the right one is CH2.
ANALOG AUDIO IN
(Unbalanced input)
Input connectors for unbalanced audio signal. The connector on the upper row is CH1, and one on the lower row is CH2.
COMPONENT VIDEO
Input and output connectors for component video signal. The three connectors on the upper row are video input, and the three connectors on the lower row are video output.
ANALOG AUDIO OUT
(Balanced output)
Output connectors for balanced audio signal. The left connector on the rear panel is CH1, and the right one is CH2.
ANALOG AUDIO OUT
(Unbalanced output)
Output connectors for unbalanced audio signal. The connector on the upper row is CH1, and one on the lower row is CH2.
ANALOG AUDIO IN
ANALOG AUDIO OUT
COMPONENT VIDEO
S-VIDEO
COMPOSITE
REF
TC
REMOTE
DIP SW
DV1
DV2
DC-IN 12V

COMPOSITE

Input and output connectors for composite video signal. The connector on the upper row is composite input, and the connector on the lower row is composite output.

Earth terminal

Connect an earth wire to this terminal, if necessary.

Remote

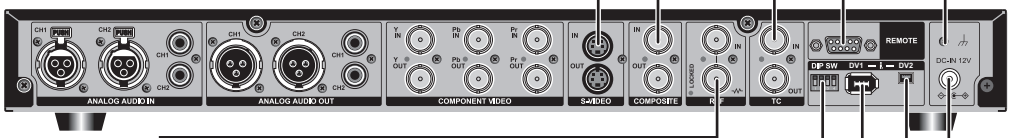
Remote control connector.

TC

Time-code I/O connectors. The connector on the upper row is TC input, and one on the lower row is TC output.

S-Video

Input and output connectors for S-Video signal. The connector on the upper row is video input, and the connector on the lower row is video output.



DIP SW

P18

DV1 (6-pin)

Use a DV cable to connect the ADVC700 to a DV device or a PC. (Bus power is not supplied.)

REF

Input connectors receiving sync signal. The LED lights red when sync signal input is detected. The REF connector has through output. If a cable is not connected to the output connector, it has a 75Ω automatic termination.

DV2 (4-pin)

Use a DV cable to connect the ADVC700 to a DV device or a PC.

DC-IN 12V

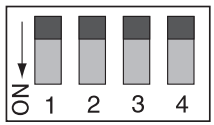
Connect the provided AC adapter here.

NOTES

- This unit will not work as an OHCI Hub with Grass Valley DV products.
- To use this unit as a Hub with OHCI devices, the application also needs to support two or more devices.

1-3. DIP switch settings

The rear panel of the ADVC700 unit has the following DIP switches. Default SW3, SW4 settings may differ depending on the place of purchase.



No.	MODE	OFF	ON
1	**PHY SPEED**	**S400**	**S200**
2	**Update Mode**	**Normal**	**Update**
3	**Video Format**	**NTSC**	**PAL**
4	**PAL/SECAM** **(When SW3 is set to ON)**	**PAL**	**SECAM**
	NTSC Setup Level **(When SW3 is set to OFF)**	**0 IRE**	**7.5 IRE**

- **SW1: PHY Speed**
  Designates the PHY speed.
  OFF: S400 *ON: S200*

- **SW2: Update Mode**
  Used to update the internal software.
  (Set this switch to the OFF position for normal operations.)
  OFF: Normal *ON: Update*

- **SW3: Video Format**
  Designates the video signal format.
  * Enabled only when the setting in the menu option "107 video standard" is "set by DIP switch".
  OFF: NTSC *ON: PAL*

- **SW4: PAL/SECAM (When SW3 is set to ON)**
  * Enabled only when the setting in the menu option "107 video standard" is "set by DIP switch".
  OFF: PAL *ON: SECAM*

  : NTSC Setup Level (When SW3 is set to OFF)
  * Enabled only when the setting in the menu option "107 video standard" is "set by DIP switch".
  OFF: 0 IRE *ON: 7.5 IRE*

CAUTION

Make sure to turn off the power of ADVC700 unit before making any changes for DIP switch settings.

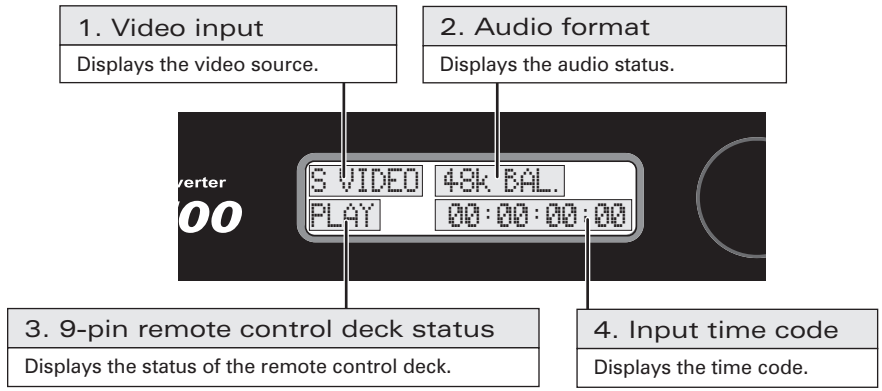
1-4. LCD screen displays

ADVC700 has two main screens and an error status screen. Turn the Select dial to switch between the main screens and the error status screen. Pressing the MENU button displays the setting menu screen.

Main screen 1

This screen shows the current status of the operation.

- **ANALOG → DV mode**



1. Video input

COMPONENT.....Signal from the component connector is input.
S VIDEO .....Signal from the S-Video connector is input.
COMPOSITE.....Signal from the composite connector is input.

2. Audio format

48k BAL. .....Converts the input Balanced audio signal to 48kHz, 16 bit audio.
48k UNBAL. .....Converts the input Unbalanced audio signal to 48kHz, 16 bit audio.
32k BAL. .....Converts the input Balanced audio signal to 32kHz, 12 bit audio.
32k UNBAL. .....Converts the input Unbalanced audio signal to 32kHz, 12 bit audio.

3. 9-pin remote control deck status

If blank.....9-pin remote control is not in use.
NoDevice.....Can't find deck. Check cable connection.
NoCASETTE.....No tape in deck.
STOP .....Deck is stopped.
PLAY.....Deck is playing.
STILL .....Deck is paused.
F.FWD.....Deck is fast-forwarding.
REW.....Deck is rewinding.
REC.....Deck is recording.
SHUTTLE.....Deck is shuttling.

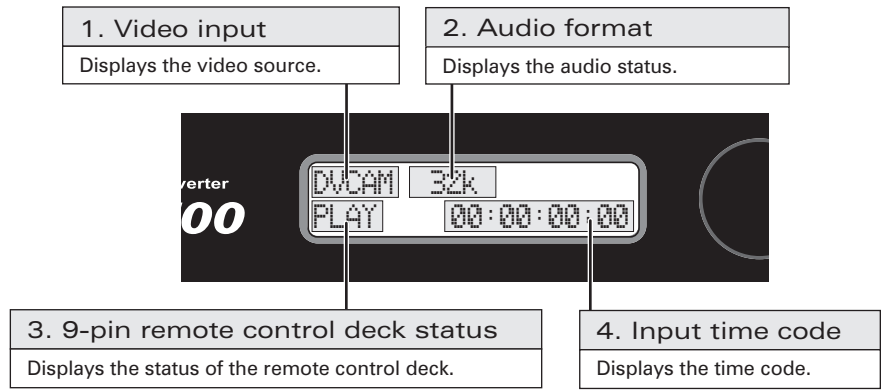
4. Input time code

00:00:03:22.....For PAL/NTSC NDF (Non Drop Frame)
* A colon is used between seconds and frames as a delimiter.

00:00:03;22.....For NTSC DF (Drop Frame)
* A semicolon is used between seconds and frames as a delimiter.

--:--:--:-- .....No DV signal output
* Free-run time code is used during built-in color bar output or when time code is not input.

• DV → ANALOG mode



1. Video input

DVCAM .....DVCAM signal is input.
DV.....DV signal is input.
-----.....No DV signal detected.

2. Audio format

48k.....The DV audio signal input is 48kHz, 16 bit.
44k.....The DV audio signal input is 44.1kHz, 16 bit.
32k.....The DV audio signal input is 32kHz, 16 or 12 bit.
-----.....No DV signal detected.

3. 9-pin remote control deck status

If blank.....9-pin remote control is not in use.
NoDevice.....Can't find deck. Check cable connection.
NoCASETTE.....No tape in deck.
STOP .....Deck is stopped.
PLAY.....Deck is playing.
STILL .....Deck is paused.
F.FWD.....Deck is fast-forwarding.
REW.....Deck is rewinding.
REC.....Deck is recording.
SHUTTLE.....Deck is shuttling.

4. Input time code

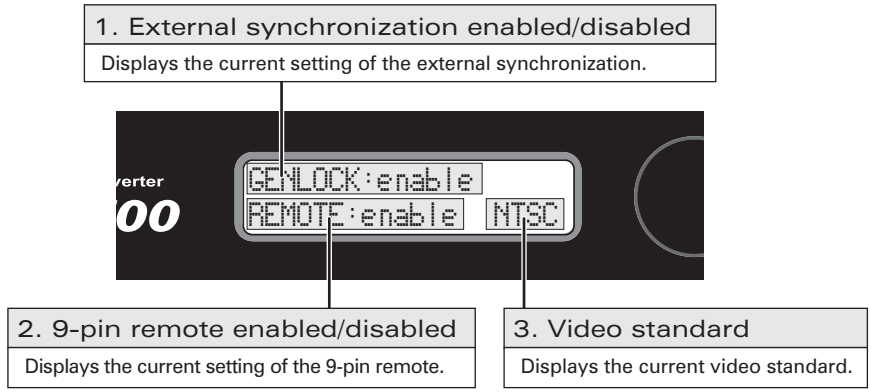
00:00:03:22.....For PAL/NTSC NDF (Non Drop Frame)
* A colon is used between seconds and frames as a delimiter.

00:00:03;22.....For NTSC DF (Drop Frame)
* A semicolon is used between seconds and frames as a delimiter.

--:--:--:-- .....No DV signal input
* Free-run time code is used during built-in color bar output or when time code is not input.

Main Screen 2

This screen shows the information on the current settings.



1. External synchronization enabled/disabled

disable.....External synchronization function is disabled.
enable.....External synchronization function is enabled.
advanced.....External synchronization function in the "perfect sync mode" is enabled.

2. 9-pin remote enabled/disabled

disable.....9-pin remote control function is disabled.
enable.....9-pin remote control function is enabled.

3.Video standard

NTSC.....ADVC700 operates in NTSC mode.
PAL.....ADVC700 operates in PAL mode.
SECAM.....ADVC700 operates in SECAM mode.

Error status screen

This screen shows error messages.

- **Error is not detected**

- **When error has occurred (When status LED is lit red)**

VIDEOin.....Analog input signal specified by “001 video input“ can’t be detected during Analog → DV mode. If “104 DVout auto-mute” is set to off, error will not occur even when no analog input signal can’t be detected.

* When “601 SG output” is set to ON, this message will not be displayed.

REFin.....Sync signal from the REF input connector can’t be locked, while “401 ext. sync” is set to “enable” or “advanced” during Analog → DV mode.

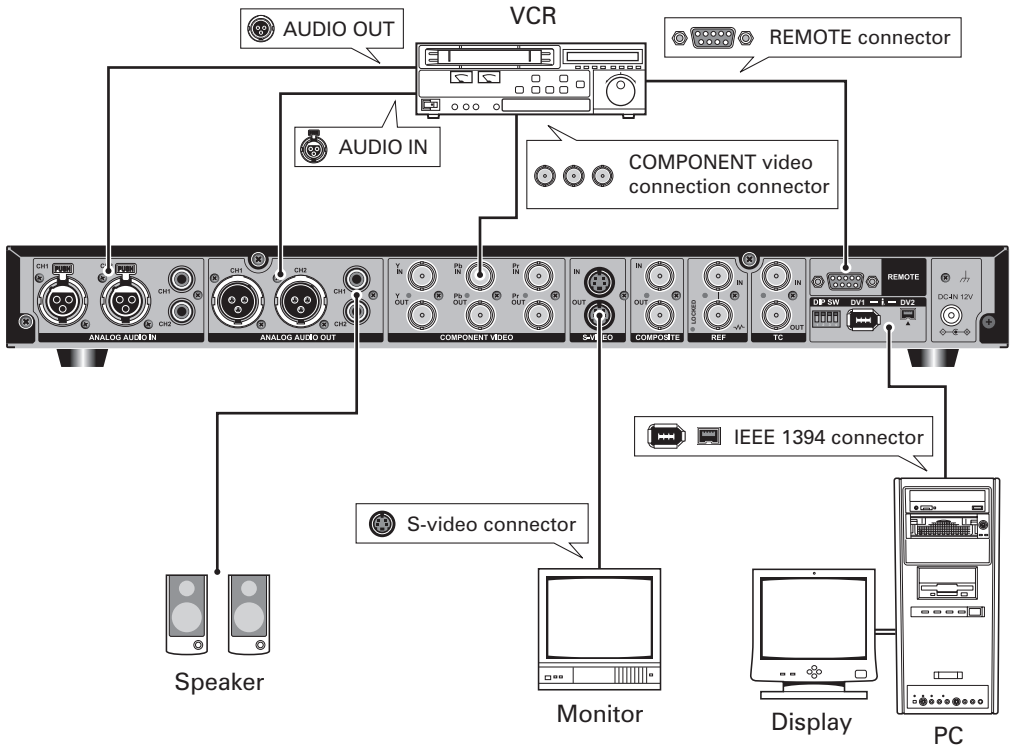
* When “601 SG output” is set to ON, this message will not be displayed.

2 Connecting devices

2-1. Connecting ADVC700 unit

Connect the ADVC700 unit to your system. The diagram below illustrates the typical connection of the ADVC700.

- **Standard (Connection to a VCR with component connectors and a PC)**



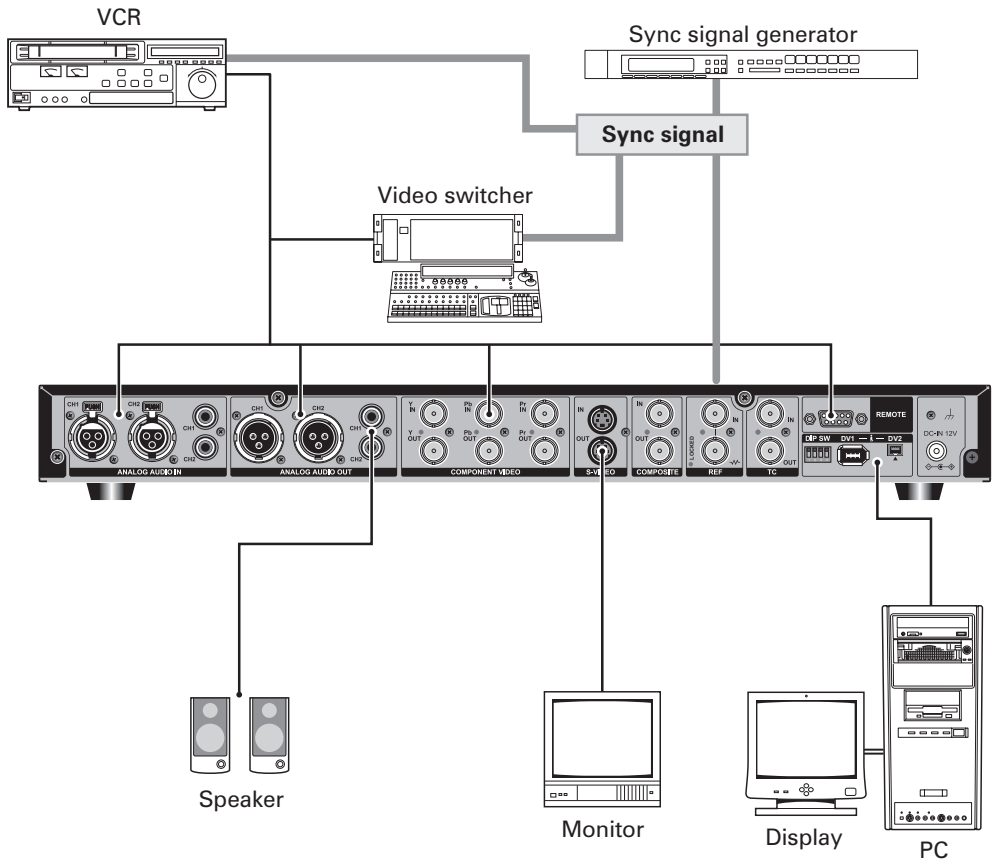
NOTES

DV editing software is required to playback or capture video files for use on a PC or to record the file data onto tape. In addition, the PC should be equipped with an IEEE-1394 connector.

CAUTION

When connecting a PC to the ADVC700 unit, make sure that the PC's power is turned off.

- **System integrated**



NOTES

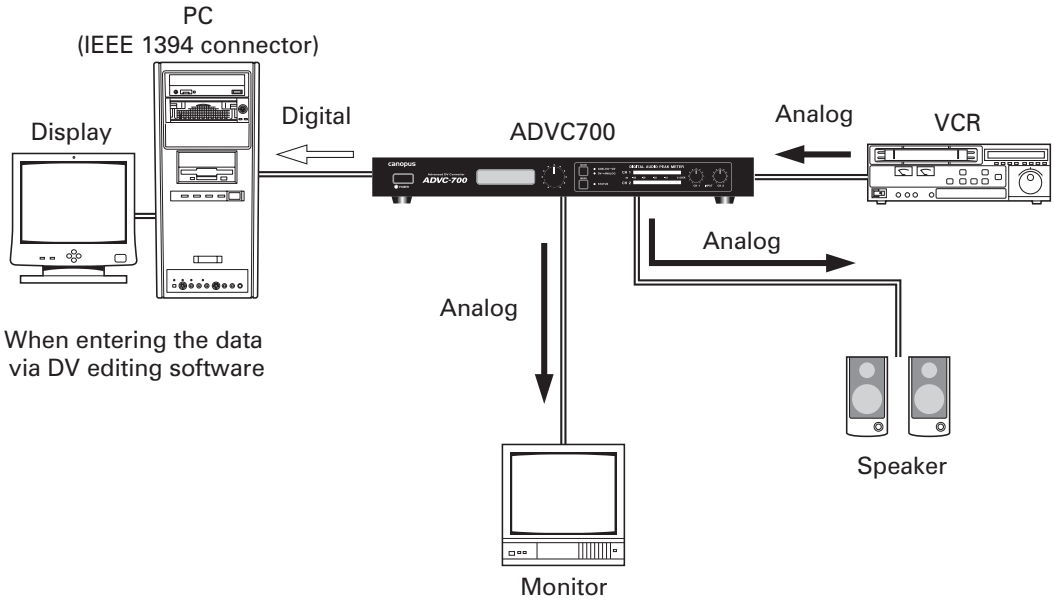
DV editing software is required to playback or capture video files for use on a PC or to record the file data onto tape. In addition, the PC should be equipped with an IEEE-1394 connector.

CAUTION

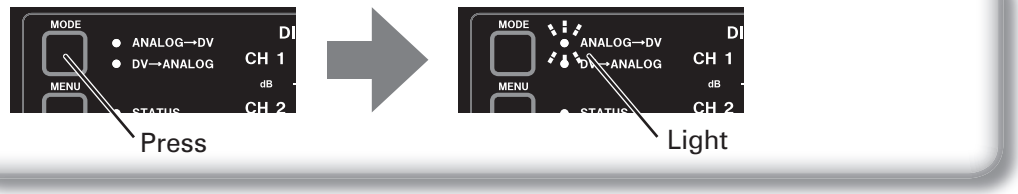
When connecting a PC to the ADVC700 unit, make sure that the PC's power is turned off.

2-2. Importing analog data to your PC

Import the material of the tape on VCR into a PC.



1 Press the [Mode] switch on the front panel of the ADVC700 to switch the mode to the [ANALOG → DV].

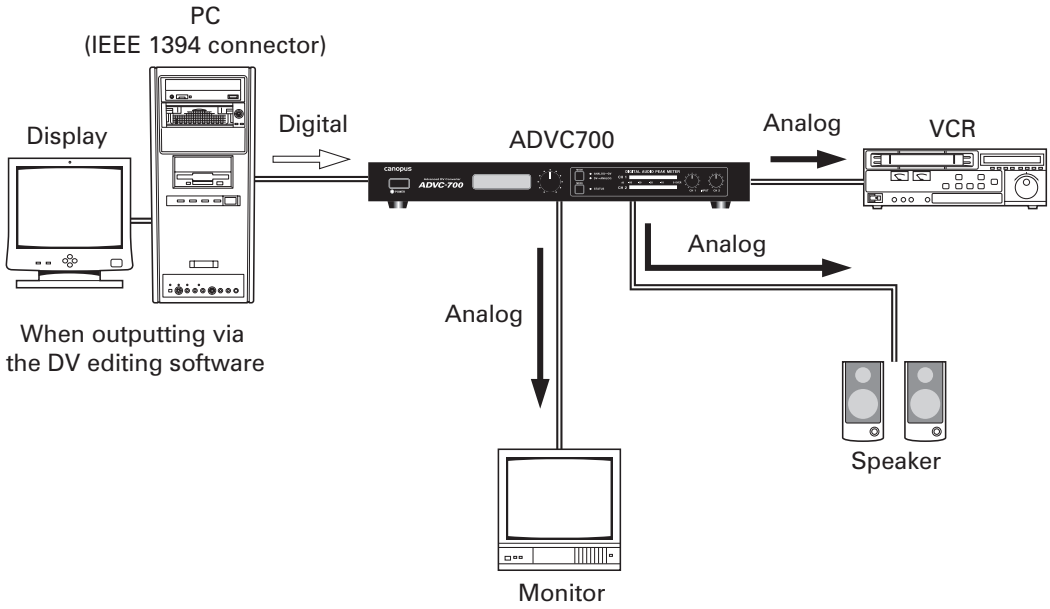


2 Capture the data by using DV editing software.

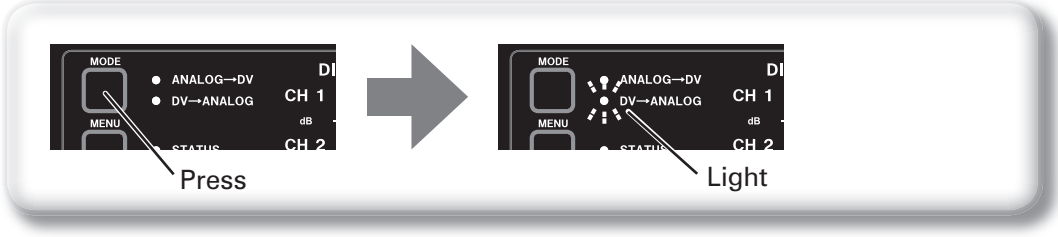
* For the operational procedure of the DV editing software, refer to the instruction manual provided with your DV editing software.

2-3. Recording PC-edited data onto a tape with VCR

Output the DV data from a PC and record it with a VCR.



1 Press the [Mode] switch on the front panel of the ADVC700 to switch the mode to the [DV → ANALOG].



2 Use the DV editing software to output your data.

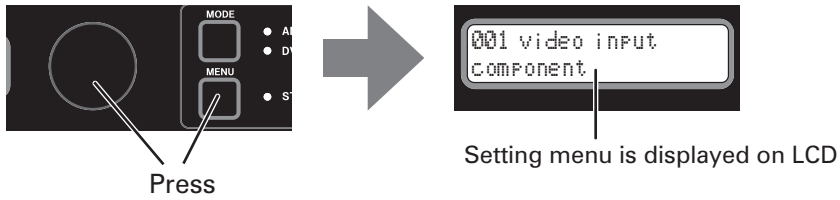
* For the operational procedure of the DV editing software, refer to the instruction manual provided with your DV editing software.

3 Use the VCR to record the data on tape.

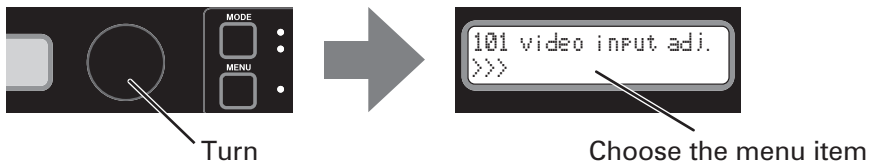
3 Setting menu

3-1. Menu operations

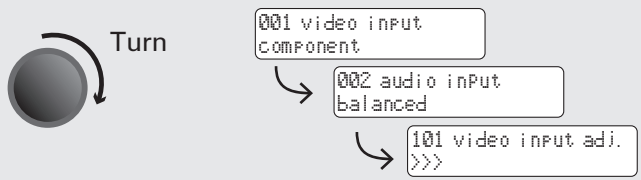
1 Press the Select dial, or MENU switch to go to the setting menu screen.



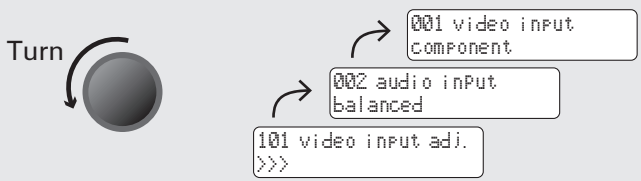
2 Turn the Select dial to choose the menu item to set.



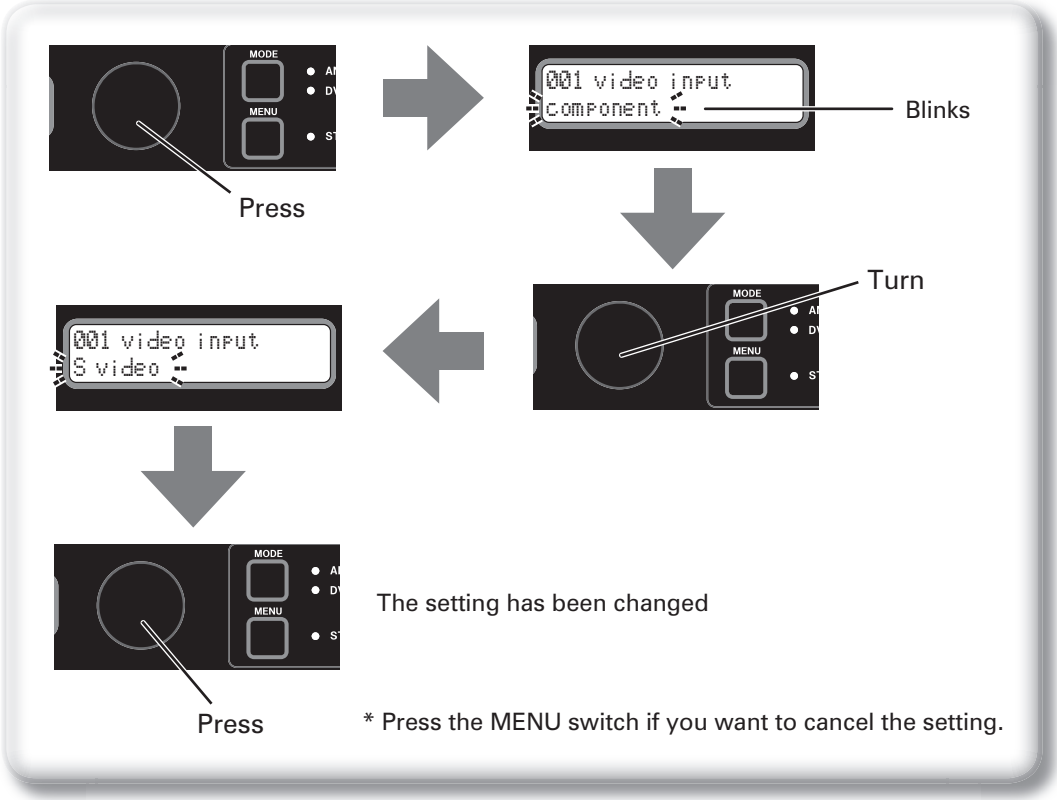
Turn the Select dial clockwise to proceed the setting menus.



Turn the Select dial counterclockwise to go back the setting menus.

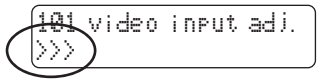


3 Press the Select dial to have the item chosen, and turn the Select dial to change its setting. If the menu item chosen has a sub-menu, press the Select dial to display the sub-menu to change its setting.



TIP

The ">>>"displayed in a menu item indicates that the menu item has sub-menus.



4 Press the MENU switch to return to the main menu.

3-2. Setting parameters

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001 video input

Specifies the input video source to be used in Analog → DV mode (DV encoding).

Analog video input setting

LCD display	
001 video input component	Inputs signal from the Component connectors. (Factory default)
001 video input S video	Inputs signal from the S-Video connector.
001 video input composite	Inputs signal from the Composite connector.

002 audio input

Specifies the input audio source to be used in Analog → DV mode (DV encoding).

Analog audio input setting

LCD display	
002 audio input balanced	Inputs signal from the Balanced audio connectors. (Factory default)
002 audio input unbalanced	Inputs signal from the Unbalanced audio connectors.

101 video input adj.

Adjusts the video quality of the input video.

Video input adjustment settings

* According to "001 video input" settings, some menu items may not be available.

LCD display	
101 video input adj. >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.
sub-menu	
brightness 512	Adjusts brightness of image. The smaller the value is, the darker the image is; the larger, the brighter. Set specified numerical value between 0 and 1023. (Factory default: 512)
contrast 128	Adjusts contrast of image. The smaller the value is, the weaker the contrast is; the larger, the stronger. Set specified numerical value between 0 and 255. (Factory default: 128)
hue 128	Adjusts hue of image. Taking yellow as an example, the smaller the value is, the closer to red; the larger, the closer to green. Set specified numerical value between 0 and 255. (Factory default: 128)
saturation 128	Adjusts color strength. The smaller the value is, the lighter the color is; the larger, the darker. You can reproduce complete gray-scale with minimum value 0 (zero). Set specified numerical value between 0 and 255. (Factory default: For composite/S video) NTSC 0 IRE: 128 7.5 IRE: 138 PAL: 128 SECAM: 128 (Factory default: For component) NTSC Betacam 0 IRE: 148 7.5 IRE: 160 PAL: 213 SECAM: 213
sharpness 128	Adjusts sharpness of image outline. The smaller the value is, the more blur image outline is; the larger, the sharper. Set specified numerical value between 0 and 255. (Factory default: 128)
component level Betacam	Specifies the component level (NTSC/component only)
Betacam	Sets Betacam (Factory default)
SMPTE	Sets SMPTE.

3D visual processing none	Set the effects for 3D noise reduction and 3D video processing. (NTSC only) (Available only to Composite or S-video)	
	none	Disables the 3D noise reduction. (Factory default)
	3D Y/C	Enables 3D Y/C (composite only)
	3D NR(low)	Enables low 3D noise reduction filter.
	3D NR(middle)	Enables medium 3D noise reduction filter.
	3D NR(high)	Enables high 3D noise reduction filter.
2D luma NR none	Eliminates the noise on the luminance component by non-linear noise extract filter.	
	none	Disables the 2D luminance noise extract. (Factory default)
	low	Enables low 2D noise extract filter.
	middle	Enables medium 2D noise extract filter.
	high	Enables high 2D noise extract filter.
2D chroma NR none	Eliminates the noise on the color component by non-linear noise extract filter.	
	none	Disables the 2D chrominance noise extract. (Factory default)
	low	Enables low 2D noise extract filter.
	middle	Enables medium 2D noise extract filter.
	high	Enables high 2D noise extract filter.
black gain none	Strengthens the gain in low luminance area toward luminance signal. As the setting becomes stronger, black gain becomes more emphasized. When set to [none], the "B adaptation level", "black threshold" settings will be invalid.	
	none	Disables the black gain. (Factory default)
	low	Enables low black gain filter.
	middle	Enables medium black gain filter.
	high	Enables high black gain filter.
B adaptation level level 1	Sets the adjustment volume for black expansion. As the adjustment volume is larger, black gain becomes more emphasized.	
	level 1	(Factory default)
	level 2 ~ 4	
black threshold 0	Specifies the luminance level to enhance black element. The higher the value the more bright the luminance level will be. Set specified numerical value between 0 and 255. (Factory default: 0)	

White Gain none	Strengthens the gain in high luminance area toward luminance signal. This option improves the gradation reproducibility for damaged area seen as white due to high luminance. When set to [none], the "W adaptation level", "white threshold" settings will be invalid.	
	none	Disables the white gain. (Factory default)
	low	Enables low white gain filter.
	middle	Enables medium white gain filter.
	high	Enables high white gain filter.
W adaptation level level 1	Sets the adjustment volume for white gain limit. As the limit volume is larger, white gain will be adjusted to lower.	
	level 1	(Factory default)
	level 2 ~ 4	
White threshold 255	Sets to which level of luminance (brightness) white gain will be adjusted lower. The level will be set darker as you set a larger value. (Factory default: 255)	
H outline enhance none	Sets the outline adjustment for horizontal direction (edge of vertical line).	
	none	Disables horizontal outline enhance. (Factory default)
	low	Enables low horizontal outline enhance.
	middle	Enables medium horizontal outline enhance.
	high	Enables high horizontal outline enhance.
V outline enhance none	Sets the outline adjustment for vertical direction (edge of horizontal line).	
	none	Disables vertical outline enhance. (Factory default)
	low	Enables low vertical outline enhance.
	middle	Enables medium vertical outline enhance.
	high	Enables high vertical outline enhance.

102 video output adj

Adjusts settings on output video.

Video output adjustment settings

LCD display		
102 video output adj >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.	
	sub-menu	
component level Betacam	Specifies the component level (NTSC only).	
	Betacam	Specifies the component level to Betacam. (Factory default)
	SMPTE	Specifies the component level to SMPTE.
composite/S gain 0	Adjusts the composite/S gain. Set specified numerical value between -32 and 32. (Factory default: 0)	
component gain 0	Adjusts the component gain. Set specified numerical value between -32 and 32. (Factory default: 0)	

103 Vout auto-off

Video output auto-off settings

Specifies the output connector that automatically stops the video output in ANALOG → DV mode (DV encoding).
When the external sync signal is not used, set this option to [auto-off] to prevent a looped connection with a connected device.

LCD display		
103 Vout auto-off >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.	
sub-menu		
composite output	Specifies the composite output setting.	
	output	Does not stop outputting video signal. (Factory default)
	auto-off	Stops outputting video signal.
S video output	Specifies the S-Video output setting.	
	output	Does not stop outputting video signal. (Factory default)
	auto-off	Stops outputting video signal.
component output	Specifies the component output setting.	
	output	Does not stop outputting video signal. (Factory default)
	auto-off	Stops outputting video signal.

104 DVout auto-mute

DV output auto-off setting

Select the conditions where ADVC700 automatically stops the DV output in ANALOG → DV mode (DV encoding).

LCD display	
104 DVout auto-mute off	Does not stop DV stream.
104 DVout auto-mute no video signal	Stops DV stream automatically. When video is not input. (Factory default)

105 DV aspect info

DV output aspect ratio settings

Specifies the aspect ratio for the DV stream that ADVC700 outputs in ANALOG → DV mode (DV encoding).

LCD display	
For NTSC	
105 DV aspect info 4:3	Sets the DV stream in 4:3 aspect ratio. (Factory default)
105 DV aspect info 16:9(letter box)	Sets the DV stream in 16:9 aspect ratio (letter box).
105 DV aspect info 16:9(squeeze)	Sets the DV stream in 16:9 aspect ratio (squeeze).
For PAL/SECAM	
105 DV aspect info 4:3	Sets the DV stream in 4:3 aspect ratio. (Factory default)
105 DV aspect info 16:9(letter box)	Sets the DV stream in 16:9 aspect ratio (letter box).
105 DV aspect info 16:9(anamorphic)	Sets the DV stream in 16:9 aspect ratio (anamorphic).

106 Sout aspect info

Specifies the aspect ratio for the S-Video that ADVC700 outputs.

S-Video output aspect ratio setting

LCD display	
106 Sout aspect info 4:3	Sets the S-Video in 4:3 aspect ratio. (Factory default)
106 Sout aspect info 16:9(letter box)	Sets the S-Video in 16:9 aspect ratio (letter box).
106 Sout aspect info 16:9	Sets the S-Video in 16:9 aspect ratio.

107 video standard

Specifies the video standard. Once you have changed the video standard settings (or the setup level), you are prompted to turn the power off to make the new setting take effect.

Video standard settings

LCD display		
107 video standard >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.	
	sub-menu	
video standard NTSC(525)/0IRE	Specifies the video standard.	
	NTSC(525)/ 0IRE	Sets to NTSC with the setup level of 0 IRE.
	NTSC(525)/ 7.5IRE	Sets to NTSC with the setup level of 7.5 IRE.
	PAL(625)	Sets to PAL.
	SECAM(625)	Sets to SECAM.
	set by DIP switch	Adopts the setting by the DIP switch on the rear panel. (Factory default)

108 DVout frame sync

Enables/Disables the frame synchronizer on the output DV stream.

DV out frame synchronizer setting

LCD display	
108 DVout frame sync disable	Disables the frame synchronizer. (Factory default)
108 DVout frame sync enable	Enables the frame synchronizer.

* Regardless of this setting, the synchronizer takes effect on the output analog video.
* This option is invalid if “501 9P remote” is set to enable.

201 DV audio encode

Specifies the DV audio format in ANALOG → DV mode (DV encoding).

DV audio encode setting

LCD display	
201 DV audio encode 48kHz/16bit	Sets to 48kHz, 16bit. (Factory default)
201 DV audio encode 32kHz/12bit	Sets to 32kHz, 12bit.

202 audio headroom

Specifies the input/output headroom of the Balanced audio (XLR).

Balanced audio headroom
(Reference level)

LCD display		
202 audio headroom >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.	
	sub-menu	
in headroom ch 1 16dB	Specifies the input headroom of CH 1.	
	16 dB	Sets to 16dB.
	18 dB	Sets to 18dB. (Factory default for PAL/SECAM)
	20 dB	Sets to 20dB. (Factory default for NTSC)
in headroom ch 2 16dB	Specifies the input headroom of CH 2.	
	16 dB	Sets to 16dB.
	18 dB	Sets to 18dB. (Factory default for PAL/SECAM)
	20 dB	Sets to 20dB. (Factory default for NTSC)
out headroom ch 1 16dB	Specifies the output headroom of CH 1.	
	16 dB	Sets to 16dB.
	18 dB	Sets to 18dB. (Factory default for PAL/SECAM)
	20 dB	Sets to 20dB. (Factory default for NTSC)
out headroom ch 2 16dB	Specifies the output headroom of CH 2.	
	16 dB	Sets to 16dB.
	18 dB	Sets to 18dB. (Factory default for PAL/SECAM)
	20 dB	Sets to 20dB. (Factory default for NTSC)

203 audio level

Specifies the input/output level of the Balanced audio (XLR).

Balanced audio input/output level

LCD display		
203 audio level >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.	
sub-menu		
inPut level ch 1 +4 dBm	Specifies the input level of the balanced audio CH 1.	
	+4 dBm	Sets to +4 dBm. (Factory default)
	0 dBm	Sets to 0 dBm.
inPut level ch 2 +4 dBm	Specifies the input level of the balanced audio CH 2.	
	+4 dBm	Sets to +4 dBm. (Factory default)
	0 dBm	Sets to 0 dBm.
outPut level ch 1 +4 dBm	Specifies the output level of the balanced audio CH 1.	
	+4 dBm	Sets to +4 dBm. (Factory default)
	0 dBm	Sets to 0 dBm.
outPut level ch 2 +4 dBm	Specifies the output level of the balanced audio CH 2.	
	+4 dBm	Sets to +4 dBm. (Factory default)
	0 dBm	Sets to 0 dBm.

401 ext. sync

External synchronization

Enables/Disables the external sync operation in ANALOG → DV mode (DV Encoding).

LCD display	
401 ext. sync disable	Disables the external sync operation. (Factory default)
401 ext. sync enable	Enables the external sync operation.
401 ext. sync advanced	Enables the external sync operation as "perfect sync mode".

* This function is only available in DV → ANALOG mode (DV decoding). The “advanced” setting is only available when DV signal is input via an IEEE1394 connector compliant with PC’s OHCI Specification. For supported operating system for PC, please refer to our web site.

402 ext. sync conf.

External synchronization configuration

Sets the amount (in unit of 37 nanoseconds) to increase/decrease the ADVC700 video output delay (system phase) relative to the external sync input.

LCD display	
402 ext. sync conf. 0	Set specified numerical value between -1024 and 1023. (Factory default: 0)

403 audio out delay

Audio out delay setting

Sets the amount (in unit of milliseconds) to increase/decrease the ADVC700 audio output delay relative to the video output, when the external sync is enabled.

LCD display	
403 audio out delay 0 msec	Set specified numerical value between -100 and 100 msec. (Factory default: 0)

501 9P remote

9-pin remote control setting

Enables/Disables the deck control from the 9-pin remote controller.

LCD display	
501 9P remote disable	Disables the deck control from the remote connector. (Factory default)
501 9P remote enable	Enables the deck control from the remote connector.

601 SG output

Color bar output

Selects the color bar output mode.

LCD display	
601 SG output off	Does not output color bar. (Factory default)
601 SG output on	Outputs color bar.

* External synchronization function cannot be used.
  Free-run time-code is output.

602 SG audio level

Selects the testing audio signal of 1kHz in color bar output mode.

SG audio level

LCD display	
602 SG audio level -18 dB FS	Sets to -18 dB FS. (Factory default for PAL/SECAM)
602 SG audio level -20 dB FS	Sets to -20 dB FS. (Factory default for NTSC)

701 1394 clock adj.

Sets the IEEE1394 system clock.

IEEE1394 clock adjustment

LCD display	
701 1394 clock adj. 127	Normally keep the same setting (127) to the factory default. (Factory default: 127)

702 local disable

Enables/Disables the MODE switch.

Local switch disable

LCD display	
702 local disable off	Permits operation by the MODE switch. (Factory default)
702 local disable on	Prohibits operation by the MODE switch.
702 local disable auto	Prohibits operation by the MODE switch, only when the deck control by 9-pin remote connector is enabled.
702 local disable off (PB mode)	Permits operation by the MODE switch, with the switching by AV/C command prohibited.

703 cycle master

Enables/Disables cycle master acquisition.
If you connect ADVC700/ADVC1000 units each other using IEEE1394 cable, set this option to OFF.

Cycle master enable/disable

LCD display	
703 cycle master off	Does not acquire cycle master.
703 cycle master on	Acquires cycle master. (Factory default)

* If this menu is set to Off, external sync of the “perfect sync mode” does not work.

704 resample filter

Select the type of horizontal resampling filter for Cb/Cr signal.
(NTSC only)

Resample filter setting

LCD display	
704 resample filter normal	Sets normal modulus. (Factory default)
704 resample filter sharp 1	Sets modulus that emphasizes anti-alias.
704 resample filter sharp 2	Sets modulus that emphasizes frequency characteristic.

705 AV/C transaction

Select the type of AV/C transaction at the time AV/C command is received.

AV/C transaction setting

LCD display	
705 AV/C transaction immediate	Executes AV/C immediate transaction. (Factory default)
705 AV/C transaction deferred	Sends INTERIM response, and then executes AV/C immediate transaction.

706 data rate cap.

Maximum data rate

Selects the maximum communication speed of the "dr cap" field of "iMPR/oMPR" at the time of booting and setting change.
Once you have changed this setting, you are prompted to turn the power off to make the new setting take effect.

706 data rate cap. S100	Sets to S100. (Factory default)
706 data rate cap. S200	Sets to S200.
706 data rate cap. S400	Sets to S400.

901 save settings

Save settings

Saves the current setting to a user area.

LCD display	
901 save settings >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.
sub-menu	
user 1	Saves the current setting as user 1.
user 2	Saves the current setting as user 2.
user 3	Saves the current setting as user 3.

902 restore settings

Restore settings (Default settings)

Restores the user setting, or to the factory default. Once you have changed this setting, you may be prompted to turn the power off to make the new setting take effect.

LCD display	
902 restore settings >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.
sub-menu	
user 1	Restores the settings to the ones saved as user 1.
user 2	Restores the settings to the ones saved as user 2.
user 3	Restores the settings to the ones saved as user 3.
factory default	Restores the settings to the factory default.

903 system version

This item contains sub-menus displaying firmware version numbers.

System version

LCD display	
903 system version >>>	Press the Select dial to display the sub-menu. In the sub-menu, turn the Select dial to choose the sub-menu item.
sub-menu	
uCOM	Displays uCOM version.
FPGA	Displays FPGA version.
CPLD 1	Displays CPLD 1 version.
CPLD 2	Displays CPLD 2 version.
unit ID	Displays unit ID.

ADVC700

Advanced DV Converter

Chapter 3
Appendix

1 Specifications

Video standard		NTSC/PAL * SECAM is available to input. In that case, PAL signal is output.
Digital video	Format	DV/DVCAM
	Input/Output	IEEE1394 4-pin x 1
		IEEE1394 6-pin x 1
	Video size	720x480 pixel (NTSC), 720x576 pixel (PAL)
Digital audio	Sampling rate	32kHz 12bit 2ch * Though the data format is in 4ch, only the two main channels can be input, with the two sub channels muted.
		48kHz 16bit 2ch
Analog video	Input	BNC (Composite) x 1
		S-video x 1
		BNC (Component x 1 set)
	Output	BNC (Composite) x 1
		S-video x 1
		BNC (Component x 1 set)
Analog audio	Input(Balanced)	XLR-3-31 x 2 * Input impedance 600Ω
	Input(Unbalanced)	RCA pin jack (Stereo 1 line)
	Output(Balanced)	XLR-3-32 x 2 * Load 600Ω is supported.
	Output(Unbalanced)	RCA pin jack (Stereo 1 line)
TC input/output	LTC input	BNC x 1
	LTC output	BNC x 1
REF IN	B.B input	BNC x 2 (INPUT and LOOP THROUGH, automatic 75Ω termination) * Analog output is available in REF sync in DV → ANALOG mode.
Remote		D-sub 9-pin (female) x 1 (RS422A)
		Command converter for AV/C → RS422A
Power source		External power jack DC12V, 2A
Current consumption		+12V 1.7A
Operating temperature		10℃ to 35℃
Operating humidity		40% to 80% (No condensation)
Storage temperature		-20℃ to 60℃
Storage humidity		20% to 80% (No condensation)
Outside dimension (projecting parts not included)		430mm(W) x 44mm(H) x 245mm(D) Ready for EIA-compliant 19" half rack-mounting
Weight		2.9kg (rubber foot included. AC adapter, rack-mount bracket not included)